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TransPotomac Plaza  
1033 North Fairfax Street  
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Alexandria, VA 22314

EXAMINER

PARKER, FREDERICK JOHN

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 03/18/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-8

Applicant(s)		
	Group Art Unit	

et beneath the correspondence address—

MONTH(S) FROM THE MAILING DATE

however, may a reply be timely filed after SIX (6) MONTHS

minimum of thirty (30) days will be considered timely.  
S from the mailing date of this communication.  
ion to become ABANDONED (35 U.S.C. § 133).  
ination, even if timely, may reduce any earned patent

prosecution as to the merits is closed in  
213.

is/are pending in the application.

is/are withdrawn from consideration.

is/are allowed.

is/are rejected.

is/are objected to.

are subject to restriction or election  
requirement

d ☐ disapproved.

ier

(a)-(d).

No. \_\_\_\_\_

7.2(a))

☐ Interview Summary, PTO-413

☐ Notice of Informal Patent Application, PTO-152

☐ Other \_\_\_\_\_

Part of Paper No. 8

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### **DETAILED ACTION**

#### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in UK on 7/19/99. It is noted, however, that applicant has not filed a certified copy of the UK application as required by 35 U.S.C. 119(b).

#### ***Drawings***

2. Figures 1-3a-c should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "63" has been used to designate both ports and flow diverters. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. See page 8, top.

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### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities: (1) claim 1, line 6; the phrasing is awkward due to the placement of "is", and it appears that it should read "...product in use is forced...". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1,4,5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 1 : line 3, the limitation is vague and indefinite because it is unclear how wiper blades are "disposed to" the main body; line 8, it is unclear how the second chamber is defined "in part" by the main body and blades; the intended meaning of the last 3 lines is unclear and redundant because it is unclear how "a flow of pasty product towards the printing screen" of line 12 can do anything but force the flow "towards the printing screen" of line 13.

- Claims 4-5: "lower edges" lack antecedent basis.

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### ***Specification***

7. The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

The following order or arrangement is preferred in framing the specification and, except for the reference to the drawings, each of the lettered items should appear in upper case, without underling or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) Title of the Invention.
- (b) Cross-Reference to Related Applications.
- © Statement Regarding Federally Sponsored Research or Development.
- (d) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on compact disc (see 37 CFR 1.52(e)(5)).
- (e) Background of the Invention.
  - 1. Field of the Invention.
  - 2. Description of the Related Art including information disclosed under 37 CFR 1.97 and 1.98.

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- (f) Brief Summary of the Invention.
- (g) Brief Description of the Several Views of the Drawing(s).
- (h) Detailed Description of the Invention.
- (l) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).
- (k) Drawings.
- (l) Sequence Listing, if on paper (see 37 CFR 1.821-1.825).

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 12-13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Admitted Prior Art (hereafter "APA") description of WO98/16387 on bottom page 2 to top of page 3, and figure 2.

The screen printing paste application method comprises a printing head with a first chamber below grille 17 which contains a first circulation zone of the

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paste 21 and application through stencil apertures 19, and a second circulation zone above grille 17 which includes circulation of paste, which in combination force a circulatory flow of paste towards/ over the printing screen and through apertures 19 for deposition onto substrate 20, as clearly depicted in figure 2 which is used to describe WO98/16387.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 1-3,7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourrieres et al WO 98/16387 in view of Mitter US 4612874.

Bourrieres et al teaches a device for carrying out screen printing, which may be attached to a screen printing apparatus (per claim 11). Per figures 3 and 13, with accompanying text, the device 6 comprises upper receptacle 7 in which is charged a viscous material to be dispensed through a stencil 3 onto a substrate 1; piston 10 to apply downward pressure to the material; a grille or perforated wall divides the upper receptacle from a lower receptacle containing aperture 19 (which is elongate per figures) for dispensing the material and flexible wipers 15 for constraining material and detaching material attached to the screen. Movement of the device described causes rotation and circulation of the material (see figure 13), including from the lower chamber back through the grille into the upper receptacle, and back downward again towards the aperture to cause agitation/ homogenization (page 18, 21-29). Use of disposable cartridges containing viscous material are cited on the bottom of page 18 and elsewhere. The pasty or liquid media applied to substrates by the screen printing machine is charged through one or more ports in the device, per



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claim 8. Thus, the device contains first and second circulatory zones on either side of the grille, per claims 1 and 3. Use of a flow director and lobes are not cited.

Mitter teaches a device usable for applying pasty or liquid media to substrates in a variety of apparatuses including screen printing (col. 4, 51-53, and elsewhere). The gist of the teachings is to utilize one or more deflector means prior to the material deposition outlet to prevent a substantially straight path of the coating material onto the screen in order to achieve a higher degree of uniformity and predictability than prior devices. Such deflectors may constitute internal shoulders, an elongated member, a rod, tear-shaped outline, etc (col. 5, 8-31, col. 6, 21-50; etc) which are adjacent outlet 2a to prevent a substantially straight path of material, thereby necessarily causing a change in circulatory flow of the material. In figure 1, 7a shows a shoulder-shaped version which, in part, defines the lower chamber. While such deflectors are not called "lobes", Applicants figures 5-6 shows downward sloping lobes 42,44 adjacent an analogous outlet which promotes circulatory flow of material prior to application. It is also noted that the shape of sch means are not limited by the reference and, in fact, one wall of the device of figure 1 opposite the shoulder having an "arcuate surface" as would at least a small portion of the underside

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of the lefthand shoulder 7a of the figure. Therefore, it is the Examiner's position that the deflectors of Mitter also constitute lobes, since both promote circulatory flow and meet the requirements of Applicants' claims was written.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the coating device of Bourrieres et al by incorporating the deflectors/ lobes of Mitter to further enhance the homogeneity of coating material and reduce the likelihood of non-uniform, irregular, or unpredictable screen printing application of coating material to a substrate.

13. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourrieres et al WO 98/16387 in view of Mitter US 4612 874 and further in view of Ha et al US 5824155.

Bourrieres et al and Mitter are cited for the same reasons discussed above, which are incorporated herein. Use of a flow director comprising vanes in the lower receptacle ("second chamber") is not cited.

Ha et al teaches a similar screen printing device for applying similar viscous materials, in which the dispensing chamber comprises flexible endcaps 78 with blades 80 adjacent the coating deposition aperture, and further the device


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comprises "streamwise vanes" whose positions are computationally determined to guide paste flow for the even distribution of viscous material at the printing head outlet (col. 12, 35-41). Since homogenization of viscous coating materials is crucial to proper screen printing, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Bourrieres et al in view of Mitter by incorporating the vanes of Ha et al in the lower chamber to enhance homogenization of the circulating viscous material prior to deposition in order to provide a compositionally uniform printing of material on the substrate, particularly in view of the need for homogenization taught by the primary reference.

While the placement of such vanes are not taught to form "a nozzle", such vanes in conjunction with the aperture would reasonably be called a "nozzle" since a nozzle is merely ""an opening...through which something is dispensed" (Websters II New Riverside Dictionary, 1994), per claims 5-6.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred J. Parker whose telephone number is (703) 308-3474.



**FRED J. PARKER  
PRIMARY EXAMINER**

Fred J. Parker

March 12, 2003

10-031336